

What is claimed is:

1 1. An electrostatic chuck assembly, comprising:
2 a base having a first end surface and a second end
3 surface;
4 a ceramic element disposed on the first end surface;
5 a pedestal disposed on the ceramic element;
6 a main body disposed on the second end surface and
7 having a through hole; and
8 at least one pushing element capable of penetrating
9 the through hole and pushing against the
10 ceramic element and pedestal to separate the
11 ceramic element and pedestal from the first end
12 surface of the base.

1 2. The electrostatic chuck assembly as claimed in
2 claim 1, wherein the second end surface of the base
3 further comprises at least one threaded hole and the main
4 body further comprises at least one fixing hole, the main
5 body fixed onto the second end surface of the base by
6 fixing a bolt into the fixing hole and the threaded hole.

1 3. The electrostatic chuck assembly as claimed in
2 claim 2, wherein the fixing hole is an elongated slot.

1 4. The electrostatic chuck assembly as claimed in
2 claim 2, wherein the fixing hole is substantially
3 rectangular.

1 5. The electrostatic chuck assembly as claimed in
2 claim 1, wherein the at least one pushing element further
3 comprises a first threaded portion and the through hole
4 of the main body further comprises a second threaded
5 portion, the first threaded portion rotatably engaging
6 the second threaded portion.

1 6. The electrostatic chuck assembly as claimed in
2 claim 5, wherein the at least one pushing element further
3 comprises a first retardant portion adjacent to the first
4 threaded portion and the ceramic element further
5 comprises a first retardant hole, the first retardant
6 portion engaged in the first retardant hole.

1 7. The electrostatic chuck assembly as claimed in
2 claim 6, wherein the first retardant portion of the at
3 least one pushing element is composed of Teflon.

1 8. The electrostatic chuck assembly as claimed in
2 claim 6, wherein the at least one pushing element further
3 comprises a second retardant portion adjacent to the
4 first retardant portion and the pedestal further
5 comprises a second retardant hole adjacent to the first
6 retardant hole, the second retardant portion penetrating
7 the first retardant hole and engaged in the second
8 retardant hole.

1 9. The electrostatic chuck assembly as claimed in
2 claim 8, wherein the second retardant portion is composed
3 of metal.

1 10. The electrostatic chuck assembly as claimed in
2 claim 8, wherein the at least one pushing element further
3 comprises a head portion adjacent to the first threaded
4 portion.

1 11. The electrostatic chuck assembly as claimed in
2 claim 10, wherein the first threaded portion, first
3 retardant portion, second retardant portion and head
4 portion of the at least one pushing element are
5 integrally formed.

1 12. A disassembling device for separating a first
2 object and a second object, the first object having a
3 first end surface and a second end surface, the second
4 object disposed on the first end surface of the first
5 object, the disassembling device comprising:

6 a main body disposed on the second end surface and
7 having a through hole; and

8 at least one pushing element capable of penetrating
9 the through hole and pushing against the second
10 object to separate the second object from the
11 first end surface of the first object.

1 13. The disassembling device as claimed in claim
2 12, wherein the second end surface of the first object
3 further comprises at least one threaded hole and the main

4 body further comprises at least one fixing hole, the main
5 body fixed onto the second end surface of the first
6 object by fixing a bolt into the fixing hole and threaded
7 hole.

1 14. The disassembling device as claimed in claim
2 13, wherein the fixing hole is an elongated slot.

1 15. The disassembling device as claimed in claim
2 13, wherein the fixing hole is substantially rectangular.

1 16. The disassembling device as claimed in claim
2 12, wherein the at least one pushing element further
3 comprises a first threaded portion and the through hole
4 of the main body further comprises a second threaded
5 portion, the first threaded portion engaging the second
6 threaded portion.

1 17. The disassembling device as claimed in claim
2 16, wherein the at least one pushing element further
3 comprises a first retardant portion adjacent the first
4 threaded portion and the second object further comprises

5 a first retardant hole, the first retardant portion
6 engaged in the first retardant hole.

1 18. The disassembling device as claimed in claim
2 17, wherein the first retardant portion of the at least
3 one pushing element is composed of Teflon.

1 19. The disassembling device as claimed in claim
2 17, wherein a third object is disposed on the second
3 object, the at least one pushing element further
4 comprises a second retardant portion adjacent the first
5 retardant portion, and the third object further comprises
6 a second retardant hole adjacent the first retardant
7 hole, the second retardant portion penetrating the first
8 retardant hole and engaged in the second retardant hole.

1 20. The disassembling device as claimed in claim
2 19, wherein the second retardant portion is made of
3 metal.

1 21. The disassembling device as claimed in claim
2 19, wherein the at least one pushing element further

3 comprises a head portion adjacent the first threaded
4 portion.

1 22. The disassembling device as claimed in claim
2 21, wherein the first threaded portion, first retardant
3 portion, second retardant portion and head portion of the
4 at least one pushing element are integrally formed.

1 23. A high density plasma chemical vapor deposition
2 system, comprising:

3 a chamber;

4 an electrostatic chuck assembly disposed in the
5 chamber; and

6 a disassembling device disposed on the electrostatic
7 chuck assembly to disassemble the electrostatic
8 chuck assembly.

1 24. The high density plasma chemical vapor
2 deposition system as claimed in claim 23, wherein the
3 electrostatic chuck assembly further comprises a
4 pedestal, a ceramic element and a base, the base having a
5 first end surface and a second end surface, the ceramic

6 element disposed on the first end surface, and the
7 pedestal disposed on the ceramic element.

1 25. The high density plasma chemical vapor
2 deposition system as claimed in claim 24, wherein the
3 disassembling device further comprises a main body and at
4 least one pushing element, the main body disposed on the
5 second end surface and having a through hole, and the
6 least one pushing element capable of penetrating the
7 through hole and pushing against the ceramic element and
8 pedestal to separate the ceramic element and pedestal
9 from the first end surface of the base.

1 26. The high density plasma chemical vapor
2 deposition system as claimed in claim 25, wherein the
3 second end surface of the base further comprises at least
4 one threaded hole and the main body further comprises at
5 least one fixing hole, the main body fixed onto the
6 second end surface of the base by fixing a bolt into the
7 fixing hole and the threaded hole.

1 27. The high density plasma chemical vapor
2 deposition system as claimed in claim 26, wherein the
3 fixing hole is an elongated slot.

1 28. The high density plasma chemical vapor
2 deposition system as claimed in claim 26, wherein the
3 fixing hole is substantially rectangular.

1 29. The high density plasma chemical vapor
2 deposition system as claimed in claim 25, wherein the at
3 least one pushing element further comprises a first
4 threaded portion and the through hole of the main body
5 further comprises a second threaded portion, the first
6 threaded portion rotatably engaging the second threaded
7 portion.

1 30. The high density plasma chemical vapor
2 deposition system as claimed in claim 29, wherein the at
3 least one pushing element further comprises a first
4 retardant portion adjacent to the first threaded portion
5 and the ceramic element further comprises a first

6 retardant hole, the first retardant portion engaged in
7 the first retardant hole.

1 31. The high density plasma chemical vapor
2 deposition system as claimed in claim 30, wherein the
3 first retardant portion of the at least one pushing
4 element is composed of Teflon.

1 32. The high density plasma chemical vapor
2 deposition system as claimed in claim 30, wherein the at
3 least one pushing element further comprises a second
4 retardant portion adjacent to the first retardant portion
5 and the pedestal further comprises a second retardant
6 hole adjacent to the first retardant hole, the second
7 retardant portion penetrating the first retardant hole
8 and engaged in the second retardant hole.

1 33. The high density plasma chemical vapor
2 deposition system as claimed in claim 32, wherein the
3 second retardant portion is composed of metal.

1 34. The high density plasma chemical vapor
2 deposition system as claimed in claim 32, wherein the at
3 least one pushing element further comprises a head
4 portion adjacent to the first threaded portion.

1 35. The high density plasma chemical vapor
2 deposition system as claimed in claim 34, wherein the
3 first threaded portion, first retardant portion, second
4 retardant portion and head portion of the at least one
5 pushing element are integrally formed.

 36. A method for separating a first object from a
second object comprising:

 placing a main body against an end surface of the
first object;

10 threadedly inserting at least one pushing element
through at least one corresponding threaded through hole
of the main body until an end of the at least one pushing
element abuts the second object;

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continuing to rotate the at least one pushing element to gradually separate the second object from the first object.